

# PATENT SPECIFICATION

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## (54) AN IMPROVED STORAGE CONTAINER

(71) We, JAMES ANTHONY CARPENTER SHAW and EVA SHAW, both Australian Citizens and both of Tabacum, Mareeba, Queensland, Commonwealth of Australia, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a storage container, principally although not exclusively for materials which evaporate deteriorate or oxidise if not stored in a preserving environment away from air.

One potential use of the container is in the storage of paint. Other uses are in the storage of chemicals, pharmaceuticals, cosmetics, wines, foods or other substances which evaporate, oxidise or deteriorate with exposure to air.

According to the invention, there is provided a storage container and closure therefor comprising a body part forming a material-holding reservoir closed at one end and open at the other end and bounded peripherally by a wall which forms a bore of substantially constant cross-section, the closure part being in the form of a piston having a closable air bleed hole, and having a peripheral resilient lip which in the uncompressed state extends outwardly of the piston and has outer dimensions slightly greater than the bore whereby it is compressed by, and sealingly engages with, the wall when the piston is located within the bore, the lip extending down from the piston towards the closed end of the container.

The invention is described with reference to the accompanying drawings in which:—

Fig. 1 is a fragmentary sectional view of a piston closure element for a storage container;

Fig. 2 is a sectional elevation of a storage container with the piston closure element of Fig. 1 located therein, the storage container being fitted with a handle;

Fig. 3 is a plan view of the storage con-

tainer of Fig. 2 with the handle removed; and

Fig. 4 illustrates a tubular dispenser which may be inserted in the air bleed passage of the piston closure element of Fig. 1.

The container body part 1 may be made of metal, glass plastics, earthenware, timber or any other substantially air impervious material. The body part 1 is a cylindrical reservoir defined by a wall 2 and a bottom 3. The open end of the container has a chamfered mouth 4 to facilitate the entry of a closure 5 to be described.

The container closure 5 is made of any suitable material and is in the form of a thin piston having a peripheral lip or lips 6 to sealingly engage the surface of the body wall 2. An air bleed hole 7 is formed through the closure 5 and a plug 8, which may be captive, is provided therefor. The sealing means may be integral with the closure 5 as shown in the drawings.

In order to facilitate exhausting the air from a container as the closure 5 is brought into close proximity to the contents, radial grooves 9 are provided on the undersurface of the closure. From Fig. 3 where the grooves are shown dotted, it will be observed that the grooves 9 extend from near to the periphery of the closure 5 to the air bleed hole 7. The grooves 9 also permit air to enter the container as the closure is withdrawn. The withdrawal of the closure 5 is thus facilitated by spreading air over the surface of the container contents and thereby limiting the degree of initial suction between the undersurface of the closure 5 and the surface of the contents.

When a handle is required it is formed of spring steel wire having a bowed part 10 with outwardly pointing ends 11 designed to spring outwards to a greater width than the distance across the top of the container. The handle ends 11 fit into slots 12 on the top of the rim 13 of the closure, and into diametrically opposed holes 14 in the wall 2. The slots 12 are made wide to facilitate assembly when the container is filled. The

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5 handle is adapted to fold down within the rim 13 of the closure 5. To facilitate the withdrawal of the closure 5, there are diametrically opposed holes 15 in the rim 13 of the closure at 90° to the slots 12. The handle ends 11 on being removed from the holes 14 can be inserted in the holes 15, then by gripping the handle part 10, a press-in or withdrawal force can be exerted on the closure 5.

10 The air bleed hole 7 may be threaded to receive a threaded plug, in place of the plug 8, or a valve (not shown). The valve could be a one-way valve or a pressure operated two-way valve. The valve could be used in conjunction with a separate nipple mounted in the closure 5. The nipple could, for example, be adapted for use with a supply of non-oxidising gas, e.g. carbon-dioxide, so that the gas introduced through the nipple would displace air from the container leaving an oxygen free atmosphere in the container.

25 A dispenser in the form of a tube 16 may be provided to screw or fit the air bleed hole 7. It has a flange 17 to abut the closure 5 and a cap 18 to seal the outer end.

#### WHAT WE CLAIM IS:—

30 1. A storage container and closure therefor comprising a body part forming a material-holding reservoir closed at one end and open at the other end and bounded peripherally by a wall which forms a bore of substantially constant cross-section, the closure part being in the form of a piston having a closable air bleed hole, and having a peripheral resilient lip which in the uncompressed state extends outwardly of the piston and has outer dimensions slightly

greater than the bore whereby it is compressed by, and sealingly engages with, the wall when the piston is located within the bore, the lip extending down from the piston towards the closed end of the container. 40

2. A storage container according to Claim 1, wherein the reservoir is cylindrical in cross-section. 45

3. A storage container according to Claim 1 or Claim 2, wherein the lip is integral with the closure part. 50

4. A storage container according to any one of Claims 1 to 3, wherein the closure part is provided with means for the attachment of a removable handle whereby the closure can be withdrawn or inserted into the body part. 55

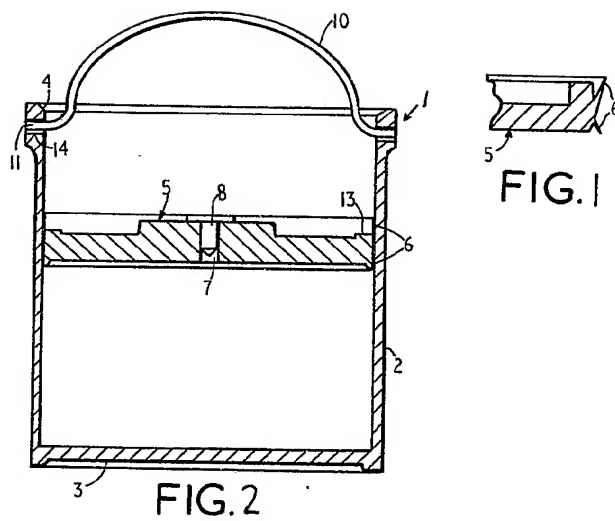
5. A storage container according to any one of Claims 1 to 4 including closure means for the air bleed hole in the form of a plug. 60

6. A storage container according to any one of Claims 1 to 4 wherein the closure means for the air bleed hole comprises a dispenser in the form of a tube screwed or fitted into the air bleed hole and having a cap to seal its free end. 65

7. A storage container according to any one of claims 1 to 4 wherein the closure means for the air bleed hole comprises a valve.

8. A storage container according to Claim 1 and substantially as hereinbefore described with reference to and as illustrated by the drawings. 70

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COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of  
the Original on a reduced scale*

Sheet 2

